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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,051	09/19/2001	Kazuyoshi Suehara	Q66245	8487

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SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037

EXAMINER
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HEITBRINK, JILL LYNNE

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/955,051

**Applicant(s)**

SUEHARA, KAZUYOSHI

**Examiner**

Jill L. Heitbrink

**Art Unit**

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 14-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 14-22 and 24-30 is/are rejected.
- 7) ☒ Claim(s) 23 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 15-17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nishibori Pat. No. 5,961,054.

3. Nishibori discloses crushing the used-up plastic product into fine chips having a diameter of 2-4 mm (col. 6, lines 15-18); washing and drying the fine chips (col. 14, lines 49-63); and feeding the fine chips into a molding line directly without palletizing to make a remolded plastic product (col. 15, lines 6-8). Nishibori (col. 5, lines 46-48) discloses the crushing of the used-up plastic product into coarse chips having a size of 15 mm x 50 mm which is within the claimed range. Nishibori (col. 11, lines 46-55) describe the separation of foreign matter by airflow separation or wind force separation process. Nishibori (col. 11, lines 39-40) discloses a magnetic selector 213 which would separate the metallic substances from the fine chips using eddy currents.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishibori Pat. No. 5,961,054 taken together with Nowicki et al. Pat. No. 4,379,525 in view of Lundquist Pat. No. 4,952,132.

6. Nowicki et al. teaches the recycling of plastic material and combining the recycled material with virgin material for injection molding. The recycled plastic is separated and cleaned before being recombined for injection molding. Lundquist teaches an injection molding nozzle with a nozzle for removing contaminants. It would have been obvious to a person of ordinary skill in the art to provide such a filter when injection molding recycled material so as to avoid blocking of the injection molding nozzle.

7. Claims 14, 18-22, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishibori Pat. No. 5,961,054 taken together with Nowicki et al. Pat. No. 4,379,525.

8. As to claim 14, Nishibori discloses coarse-crushing used-up plastic products to form coarse chips (col. 2, lines 55-58); separating the coarse chips from other foreign matters (col. 2, lines 59-63); fine-crushing the coarse chips to form fine chips (col. 2, lines 64-65); washing and drying the fine chips using a circulation flow including a spiral flow (col. 14, lines 49-63) in which interaction between the fine chips help clean the fine chips without washing agents (col. 15, lines 39-43); removing metallic matters mingled in the fine chips by using a metal detector (col. 11, lines 39-42); and feeding the dried fine chips directly to an extruder (col. 15, lines 6-8).

9. Nishibori (col. 14, lines 49-63) discloses mixing the fine chips with water in a washing tank with a spiral flow (cyclone 10), draining the fine chips and washing liquid through a sink hole (26) in the bottom of the washing tank. Nowicki teaches the washing of recycling plastic container scrap wherein the water and any plastic therein is circulated through a circulating pipeline (26), and ejecting the fine chips and washing liquid carrying foreign objects to pass through and be separated from the fine chips (dewatering station 28). It would have been obvious to a person of ordinary skill in the art to recycle the washing water in Nishibori since would prevent contamination of rivers which is a concern in Nishibori (col. 15, lines 42-43). The sink hole being partially open to air would have provided conveyance of the fine chips through the upper portions of the hydrocyclone.

10. The repeating of the circulating, ejecting and draining are disclosed by Nowicki et al. (col. 4, line 65- col. 5, line 2) which repeats the steps of agitation, filtration and water recycling until the contaminants are removed. The dewatering station 28 is similar to a drainer basket as shown in Fig. 2

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above references as applied to claims 1 and 2 above, and further in view of VanDeMoere et al. Pat. No. 5,600,391.

12. VanDeMoere et al. teach the recycling and molding of plastic component of film with lens unit. It would have been obvious to a person of ordinary skill in the art to use the process of Nishibori for recycling and molding of film with a lens unit since the recycling of the plastic would reduce waste material.

***Allowable Subject Matter***

13. Claims 23 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach the claimed method for recycling used up plastic by crushing, washing, and drying and feeding the fine chips to an injection molding machine with a cylindrical wall shaped filter wherein during normal injection the material passes in a first radial direction through the filter and during cleaning the material passes in an opposite radial direction through the filter to clean the filter.

***Response to Arguments***

14. Applicant's arguments filed March 30, 2004 have been fully considered but they are not persuasive.

15. Applicant argues that Lundquist and VanDeMoere do not teach the particular crushed chip size. However, Nishibori discloses the particular chip size.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is 571-272-1199. The examiner can normally be reached on Monday - Friday 9:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni can be reached on 571-272-1196. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jill L. Heitbrink  
Primary Examiner  
Art Unit 1732

jlh